

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

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IN RE: MOODY'S CORPORATION
SECURITIES LITIGATION

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DOCKET NO. 07-cv-8375-GBD

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EXPERT REPLY REPORT OF

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OCTOBER 22, 2010

I. QUALIFICATIONS & ASSIGNMENT

1. This report should be read in conjunction with my expert report dated May 28, 2010 (the “Stulz Report”), which sets forth my qualifications, my testimony experience, and my compensation.
2. I have been asked by counsel for Moody’s to examine and respond to the Report of Mr. Chad Coffman, CFA, dated August 23, 2010 (the “Coffman Report”), as well as to the testimony Mr. Coffman gave at his October 7, 2010 deposition (“Coffman Deposition”). In preparing this report, I have considered those materials, the documents listed in Appendix B, and the documents previously identified in Appendix C to the Stulz Report.

II. SUMMARY OF OPINIONS

3. In my first report, I was asked to evaluate as a financial economist whether there is a reliable economic basis for Plaintiffs to assert that the alleged misstatements and omissions are material, caused the alleged losses to Moody’s shareholders, and were unknown to and relied upon by the members of the class proposed by Plaintiffs. My report did not address claims from an expert report because Plaintiffs had not submitted such a report. I therefore addressed the claims made by Plaintiffs in the Consolidated Amended Complaint (the “Complaint”), the Lead Plaintiffs’ Memorandum of Law in Support of Motion for Class Certification (the “Memorandum for Class Certification”), and its accompanying exhibits.
4. The opinions summarized at the beginning of the Stulz Report were as follows:
 - A. The limitations of structured finance ratings were well-known before the start of the putative Class Period.
 - B. The conflicts of interest resulting from the issuer-pay model were well-known before the putative Class Period.¹ The features of structured finance that Plaintiffs claim

¹ In my academic work on conflicts of interest, I define “a conflict of interest as a situation in which a party to a transaction can potentially gain by taking actions that adversely affect its counterparty.” (Hamid Mehran and René M. Stulz, “The Economics of Conflicts of Interest in Financial Institutions,” *Journal of Financial Economics*, 2007, v85, p. 268). In the Stulz Report, I used the language “potential conflicts of interest.” This language seems to have been a source of confusion for Plaintiffs. To avoid this confusion, I use the language “conflicts of interest” in this report in the same way that the Plaintiffs do when they introduce the concept in the Complaint (¶ 37).

exacerbated these conflicts were in plain view before and throughout the putative Class Period.

- C. If Plaintiffs' allegations are correct, the alleged fraud would have been known by various market participants during the putative Class Period. That knowledge would have spread to many investors in Moody's stock through various recognized channels, making reliance on an allegedly misrepresented or omitted fact the object of an individual inquiry. Additionally, if Moody's stock traded in an efficient market, the valuation impact of a fraud known by many market participants would have been rapidly incorporated in the stock price.
 - D. It does not follow from unexpected downgrades and methodology improvements that Moody's had systematically overrated structured products due to conflicts of interest.
 - E. Plaintiffs have not provided scientific evidence that the alleged misstatements were material or inflated Moody's stock price, nor have they shown that there were disclosures that cured alleged misstatements and caused investor losses. Plaintiffs fail to present a scientific method by which to establish loss causation, and fail to demonstrate that lead Plaintiffs' claims are typical of other potential class members.
5. After reviewing the Coffman Report and testimony, as well as Plaintiffs' Reply Memorandum of Law in Support of Lead Plaintiffs' Motion for Class Certification, filed August 23, 2010 ("Reply Memorandum"), my opinions are unchanged. In this report, I show that the scientific evidence that has been brought forth supports my opinions.² A summary of this report is as follows:
- A. It is contradictory for Mr. Coffman and Plaintiffs to allege that, on the one hand, there was fraud because Moody's did not disclose that it accommodated the wishes of issuers and gave inflated ratings (thereby "succumbing" to conflicts of interest), and then argue on the other hand that the issuers did not know that they were

² The opinions offered in the Stulz Report and herein relate strictly to whether there is scientific economic evidence to claim investors' knowledge of alleged misstatements and omissions, materiality, and loss causation based on all the information and analysis performed to date. I never offered an opinion as to whether Defendants acted with scienter or actually made any misrepresentations (indeed, I took Plaintiffs' alleged misrepresentations and alleged corrective disclosures as given and assessed whether they were economically material and economically consistent with Plaintiffs' theories). Because Plaintiffs' choice not to file an expert report until reply left me no choice but to address the layman's allegations in the Complaint, the Reply Memorandum's attempt to impeach my opinions about those allegations as "improper" and "objectionable" (pp. 20-21) is misguided.

accommodated. It is even more contradictory for Mr. Coffman and Plaintiffs to argue that “Moody’s evaluations (and, in this case, lack of evaluations) were so unreasonable *ex-ante* that they can only be explained by Moody’s above-alleged conflicts,”³ and then also argue that sophisticated investors were not smart enough or did not have enough resources to have already figured out the purported obviously unreasonable ratings given all the information that was in plain view at the time. Issuers, underwriters, sophisticated institutional investors, and other market participants had better information about the securities rated by Moody’s than Moody’s itself, so they could evaluate whether Moody’s opinion on their credit risk was systemically biased. In addition, some banks and investment firms also had former employees of Moody’s on their staff who would have known, in excruciating detail, how Moody’s went about rating structured finance securities.

- B. Mr. Coffman acknowledges that the potential conflicts of interest related to the issuer-pay model were well-known before and during the putative Class Period.⁴ However, he mischaracterizes the purpose of the discussion in the Stulz Report by claiming that I have not established that the market as a whole believed that Moody’s had allegedly compromised its independence prior to or during the putative Class Period.⁵ It is undoubtedly true that there were observers who thought that Moody’s was managing conflicts of interest appropriately before, during, and even after the putative Class Period. On the other hand, as noted in a February 23, 2006 article produced by Mr. Coffman, as well as the numerous press articles and industry publications referenced in the Stulz Report, many market participants believed otherwise.⁶ The spirited debate shows that many believed that the conflicts were not just potential, but in fact had brought about systematically biased ratings and could not be effectively managed.
- C. Contrary to the false impression left by the Coffman Report, many market participants and observers evaluate the products and output of rating agencies as part

³ Complaint, ¶ 127.

⁴ Coffman Deposition, 173:14-18.

⁵ Coffman Report, ¶¶ 58-69.

⁶ According to the February 23, 2006 article, a Bond Market Association study found that “45 percent of borrowers were not comfortable that agencies were effectively managing potential conflicts of interest.” “UPDATE 1-Survey shows concern over rating agency competition,” *Reuters News*, February 23, 2006, at COFFMAN 03388-9. See, Stulz Report, ¶¶ 40, 46-48.

of their job, so sophisticated investors would have known if ratings were systematically biased in favor of certain structured finance issuers to the extent alleged by Plaintiffs. In an efficient market, contrary to what Mr. Coffman seems to suggest, it is not necessary for everybody to be informed about an alleged fraud or trade on such knowledge for the valuation impact of that alleged fraud to be reflected in the stock price. Moreover, this is a situation in which many stock investors could be reasonably expected to have known of the alleged overrating since relevant information would have been held by countless former Moody's employees, employees of issuing banks, servicers, mortgage originators, credit analysts, and institutional investors. Mr. Coffman has presented no economic (or other) basis for the belief that all these people would or could have kept such information, or their opinion of Moody's rating practices, secret. Given this situation, it is not possible to determine what potential class members believed or knew about Moody's rating practices without inquiring into the basis for their individual investment decisions, thereby shedding light on whether they actually relied on the alleged misstatements and/or omissions when they purchased Moody's stock.

- D. Mr. Coffman now seems to have changed Plaintiffs' allegations in ways that cast further doubt on their ability to show *economically material* misstatements or omissions on a class-wide basis. Under their new theory, Plaintiffs allege that Moody's simply omitted the truth on the various misrepresentation dates (rather than introduced new misleading information to the market). Even if this could properly be treated as an omissions case, scientific economic evidence of materiality would still require showing that Moody's stock price would have been significantly lower absent the alleged omissions, or there was a statistically significant negative stock price reaction when the allegedly omitted information was ultimately revealed. Mr. Coffman has not even attempted to identify the events that revealed the alleged omissions, let alone offered such scientific evidence of materiality. Moreover, according to his own list of "potentially material" information and his deposition, Mr. Coffman apparently does not consider the type of information contained in most of Plaintiffs' alleged misstatements and some of their alleged corrective disclosures even

“potentially material.”⁷ For example, Mr. Coffman failed to identify any potentially material news relating directly to the alleged conflicts of interest at the heart of this case.⁸

- E. Mr. Coffman does not question that the fall in Moody’s stock price over time and the drop in its revenue could be entirely explained by the financial crisis. Rather, he concludes -- in contradiction with the Complaint -- that one should focus on evidence from an event study showing that the “allegedly corrective information caused a decline in stock price.”⁹ I agree.¹⁰ Using this approach, the Coffman Report does not question my conclusion that only two alleged disclosure days have a significant negative abnormal return: August 20, 2007, and May 21, 2008. However, in a crucial shortcoming, Mr. Coffman fails to show that the alleged disclosures on these days (i.e., a Senator’s comment which, according to Mr. Coffman, may have indicated “bipartisan support for increased regulation of the credit rating agencies”¹¹ and news concerning a potential modeling error on a handful of exotic, non-mortgage-related European structured securities) would not have occurred but for Plaintiffs’ specifically-alleged misstatements or omissions. In other words, he has not tied these stock price declines to the alleged fraud. Thus, he has not provided any economic evidence suggesting the alleged misstatements or omissions were material or caused any investor losses. Mr. Coffman’s own list of potentially material news also shows a contemporaneous negative event on August 20, 2007 (an analyst report on McGraw-Hill, the parent of Moody’s main competitor, based on a negative view of future

⁷ See Exhibit 1 to the Coffman Report. In his deposition, Mr. Coffman offered a list of “types of news events that are clearly shown in the literature to move stock prices,” a list which did not include model errors or methodological changes (Coffman Deposition 42:25-44:18). Also, see the extensive discussion of rating methodology changes in Coffman Deposition pp. 64-79, where Mr. Coffman notes that he did not consider most methodological changes potentially material, but rather only certain changes that generated some (necessarily subjectively defined) level of market commentary. In contrast, the Complaint clearly considers methodological changes to be potential corrective disclosures, stating, for example, “Moody’s *post facto* methodology changes are a strong badge of the debasement and illegitimacy of Moody’s class period ratings models” (Complaint ¶167).

⁸ He concluded that the limited information he did find on the issue “was not ... hidden from the market during the class period ... I wouldn’t expect it to be material to the market” (Coffman Deposition, 140:6-12; also, see Coffman Deposition, 133:5-145:12).

⁹ Coffman Report, ¶ 86.

¹⁰ Mr. Coffman questions the relevance of certain discussions related to materiality and loss causation in my report, characterizing them in places as “a distraction” (See Coffman Report, ¶¶ 11, 91; also see Reply Memorandum p. 20). However, topics such as Moody’s overall stock price decline during the purported Class Period, Moody’s role in the financial crisis, and the supposedly informative value of downgrades were all set out in the Complaint and Memorandum for Class Certification as a crucial part of Plaintiffs’ theory (as I will discuss further in this report). I introduced certain evidence in my initial report in an attempt to address these vague claims and theories, not to distract the Court in any way from legitimate issues in the case.

¹¹ Coffman Report, ¶ 98.

revenue in the credit ratings industry) which could have caused the price drop. Further, when discussing the stock price drop on May 21, 2008, he seems to confuse the materiality of information regarding the importance of ratings and Moody's reputation generally with the materiality of the specifically-alleged omissions in this matter.

- F. I offered no opinion on market efficiency in the Stulz Report (and was not asked to). Mr. Coffman's attempt to assess informational efficiency and show a "cause and effect relationship between Moody's-specific news and Moody's stock price movements" is subjective, unscientific, and hence unreliable.¹²
6. This report proceeds as follows. In the next section, I address issues concerning diffusion of knowledge about the alleged fraud. In Section IV, I show that Plaintiffs and Mr. Coffman do not provide scientific economic evidence of materiality (or loss causation). Finally, in Section V, I comment on Mr. Coffman's analysis of market efficiency.

III. KNOWLEDGE

7. In the Stulz Report, I provided evidence that the existence of (and the risks associated with) the inherent conflicts of interest related to the issuer-pay model were well-known; that if Plaintiffs' allegations were true, the "succumbing" to, or subversion of ratings through, conflicts of interest would necessarily have been well known; that limitations of ratings were well-known; that Moody's provided a wealth of information to the markets that enabled market participants to assess the ratings it gave to structured finance securities; that many financial market participants had at least as good (if not better) information about the securities rated by Moody's as Moody's itself; that former Moody's employees (who would have had knowledge of Moody's practices) were employed throughout the financial industry; and finally that it is well-known from research in finance that information can percolate through many informal networks.
8. Mr. Coffman and Plaintiffs criticize me for discussing "potential" conflicts of interest and not demonstrating that the market as a whole believed that Moody's had succumbed to the alleged conflicts of interest. They also criticize me for not proving that every potential

¹² Coffman Report, ¶ 48.

investor had the ability to unravel the alleged fraud, contending that “widely available” knowledge requires that Moody’s rating methodologies were “completely transparent” or “easily” replicable, or that investors traded on insider information illegally.¹³ These criticisms either mischaracterize my opinions or fail to understand the relevant discussions in the Stulz Report. They sometimes even contradict Plaintiffs’ earlier assertions in this matter.

9. In this section, I start with a discussion of why Mr. Coffman and Plaintiffs contradict themselves and make a powerful case that it is implausible to conclude that knowledge of the alleged fraud would have been contained. Indeed, information sufficient to unravel the alleged fraud would diffuse to individuals and institutions involved in structured finance not only through the alleged fraudulent scheme, but also through the normal course of their business. In the second sub-section, I show that prior to and during the putative Class Period, some people believed Moody’s had succumbed to conflicts of interest, and discuss how that belief could reach far beyond the wide range of market participants in structured finance. Finally, I address some remaining misguided criticisms in the Coffman Report.
10. The discussion in this section will reiterate two key implications of knowledge diffusion: (1) that many putative class members would not have relied on the alleged misstatements or omissions, and (2) that, if Plaintiffs are correct and the market for Moody’s stock was efficient, diffused information of the alleged fraud implies the valuation impact of the alleged fraud (if any) could have already been fully priced into Moody’s stock during the putative Class Period.

III.A. PLAINTIFFS MAKE A COMPELLING CASE FOR DIFFUSION OF KNOWLEDGE ABOUT THE ALLEGED FRAUD

11. Plaintiffs and Mr. Coffman claim that the market for Moody’s stock was efficient. At the same time, they claim that Moody’s sacrificed its independence to foster the short-term growth of its structured finance rating business, allegedly taking steps to cultivate clients by systematically awarding ratings too generously. After presenting these views, Plaintiffs turn around and claim that knowledge of the alleged fraud could not have been

¹³ Coffman Report, ¶¶ 58-59, 71-75, 81-82.

diffused to a large number of financial market participants, and thus could not have already been incorporated in Moody's stock price. These opinions are irreconcilable.

12. If Moody's was too generous in its rating procedures to please clients, it cannot be the case that these very clients did not know that Moody's was trying to please them. The scheme Plaintiffs are alleging here is based on the notion that Moody's debased ratings and compromised its independence in pursuit of greater market share and short-term profits. For this to be an economically coherent theory, repeat clients would have to give Moody's more rating business, thereby increasing its revenue and profits. This step – clients choosing to give Moody's more business – hinges on the clients themselves knowing they were being treated favorably. As stated in the Memorandum for Class Certification, "Moody's credit ratings were not solely influenced by factors relevant to the credit assessment, but were also affected by the existence of, or potential for, **lucrative business relationships** between Moody's and the entities that paid Moody's to provide credit ratings."¹⁴
13. Indeed, Plaintiffs make many allegations that the clients being accommodated clearly knew they were being accommodated:
 - 1) Analysts at Moody's were removed because clients complained.¹⁵
 - 2) Ratings were changed following complaints by clients.¹⁶
 - 3) Moody's "did give assurances of particular credit ratings to Issuers."¹⁷
 - 4) Moody's did not collect information it claimed to use or should have used according to Plaintiffs.¹⁸ To the extent that Moody's would have had to ask issuers for that information, issuers would know Moody's was not using it.
14. Mr. Coffman himself agrees that the foundation of Plaintiffs' claims is that Moody's was not "independent" from "**issuers** of securities and **investment banks**."¹⁹ Therefore, it necessarily follows from this specifically-alleged scheme that the alleged fraud was

¹⁴ Memorandum for Class Certification, p. 7, emphasis added.

¹⁵ "As Housing Boomed, Moody's Opened Up," *The Wall Street Journal*, April 11, 2008, cited in Complaint, ¶ 347.

¹⁶ *Ibid.*

¹⁷ Complaint, ¶ 69.

¹⁸ Complaint, ¶ 131.

¹⁹ Coffman Report, ¶ 20, emphasis added.

known beyond Moody's (at the very least, by issuers and investment banks whose deals were allegedly rated more favorably by Moody's).

15. Exhibit 3 in my original report showed that many issuers and investment banks were also shareholders of Moody's, and thus potential class members. Since they would necessarily have known of the alleged fraud (as agents in the alleged scheme), these institutions could not have relied on the alleged misrepresentations or omissions. In addition, to the extent that these institutions believed that Moody's could successfully increase its profitability in the foreseeable future due to the alleged misconduct, it is possible that they might have purchased Moody's stock during the putative Class Period specifically based on their knowledge of the alleged fraud.²⁰ Mr. Coffman attempts to get around this problem by suggesting that such class members could be "excluded."²¹ However, even if Plaintiffs or Mr. Coffman put forward a class definition that excludes all the issuers and banks (and thus far they have not), such definition would not be able to capture all the potential class members who possessed the knowledge of the alleged fraud, especially given likely information diffusion through recognized channels noted in the Stulz Report.²²
16. In addition, issuers and investment banks have thousands of employees and high turnover. As I noted in my report, employees routinely leave rating agencies to work at banks, hedge funds and other "buy-side" investment outfits.²³ Similarly, a 2009 World Bank paper noted that, due to the "high turnover" at Credit Rating Agencies, "[i]nvestment banks commonly hired structured finance analysts (there is as yet no mandatory 'cooling off' period for such moves), which arguably facilitated exploitation of loopholes in rating methodologies."²⁴ Given staff turnover, knowledge of the alleged

²⁰ Mr. Coffman agrees that it is possible some investors could have traded Moody's stock based on their belief that Moody's short term profitability would increase due to its alleged succumbing to conflicts of interest (See Coffman Deposition, 237:10-238:12).

²¹ Coffman Report, ¶ 79.

²² I cited well-regarded academic literature documenting recognized channels through which knowledge diffuses in Paragraph 54 and footnotes 76 and 77 of the Stulz Report. Mr. Coffman has not directly challenged the findings or implications of that peer-reviewed research (nor would he have any basis to challenge it), and instead skirts the issue by arguing there is no clear evidence that all investors knew of the alleged fraud. However, as I will explain further herein, my opinions do not rely on the information being known to all investors.

²³ Stulz Report, ¶ 53.

²⁴ "Credit Rating Agencies: No Easy Regulatory Solutions," Crisis Response Note Number 8, The World Bank Group, October 2009, pp. 4, 7. This phenomenon was also noted in press articles. For example: "[I]t is accepted at all the rating agencies that there will be a degree of turnover in their staff - whether the analysts leave for investment banks, or asset management firms and insurance companies. ...[The rating agencies] recruit heavily at the graduate level for their training programmes, but the experience and expertise that they give their trainees means that their mid-level analysts regularly get picked off by the banks."

misstatements or omissions would have traveled with knowledgeable former employees. Additionally, financial analysts and investors who attended industry conferences that former rating agency employees attended could also have picked up valuable information.²⁵ Note finally that employees of mortgage originators and servicers had first-hand evidence on the quality of the mortgages included in securitizations being rated by Moody's. Thus, each class member needs to be asked whether they previously worked on some part of the mortgage securitization chain, structured finance issuance, or at Moody's, and in the case of the myriad buy-side outfits who are potential class members, whether they *employed* any former bank or Moody's employees, and whether they *exchanged relevant information* with these former employees.

17. In criticizing this whole line of reasoning, the Reply Memorandum (p. 15) suggests that "evidence for this proposition [about actual knowledge of the alleged fraud] is both nonexistent and impossible to demonstrate, as Defendants' own expert admits." This completely misses the point of my statement. The information is only impossible to demonstrate without questioning class members individually. What's more, as noted above, the "proposition" that actual knowledge about the alleged fraud was spread among many firms and individuals was not pulled out of thin air, it is a necessary, logical feature of Plaintiffs' compromised independence theory.
18. The Complaint makes the case for diffusion of knowledge in another way. In a stark contrast to Mr. Coffman's assertion that it requires "tremendous resources to duplicate Moody's endeavors in an effort to ferret out ratings inflation,"²⁶ Plaintiffs state in the Complaint that "Moody's was failing to consider conventional information that was **easily available** and likewise known to be relevant and crucial to credit risk evaluation."²⁷ Further, they argue that "Moody's evaluations were so **flagrantly wrong** *ante (sic)* that they can be explained only by Moody's conflicts and revenue ambitions."²⁸ Elsewhere in the Complaint, we learn that "all information necessary (*sic*) Moody's to

("How to Play the Job Rating Game," *Financial Times*, March 26, 2007.) "Wall Street was given access to the formulas behind those magic ratings -- and hired away some of the very people who had devised them." ("Rating Agency Data Aided Wall Street in Deals," *The New York Times*, April 23, 2010.)

²⁵ In Stulz Report ¶ 27, I discuss how securitization industry conferences were attended by credit rating agencies, academics, asset managers, investment bankers, and other industry professionals.

²⁶ Coffman Report, ¶ 71.

²⁷ Complaint, ¶ 108, emphasis added.

²⁸ Complaint, ¶ 109, emphasis added.

have rated such securities accurately at issuance was in plain view, or readily available to Moody's without due diligence."²⁹ If the Complaint's statements were correct, it makes no sense for Mr. Coffman to argue that sophisticated investors would not have used "readily available" information and realized that Moody's ratings were systematically biased or "flagrantly" wrong. According to Plaintiffs, there was no insurmountable obstacle to do so: the crucial information that Moody's allegedly ignored was "in plain view."

19. As an example, I mentioned in the Stulz Report and my deposition that CPDOs were complicated securities to evaluate. Mistakes in the rating of such securities would have been non-trivial to detect. Yet, according to a SEC report, it turns out the mistake in the CPDO model at the heart of the May 21, 2008 *Financial Times* article was discovered because an investment bank had its own model and it yielded different results from Moody's:

In January 2007, an MIS [Moody's Investors Services] analyst in New York, assisting on a CPDO deal with a United States investment bank, was asked to determine why the MIS CPDO model was not generating the same output as the investment bank's model. Upon examination, the analyst discovered a coding error in the MIS model.³⁰

20. This is but one clear example of well-informed market participants monitoring Moody's ratings. As noted in the Stulz Report, these sophisticated market participants had their own models that they could use to replicate the bulk of Moody's analysis for very complicated securities. This point is confirmed in a 2003 Letter from the SEC Chairman, a document which Mr. Coffman cites in his report:³¹

As discussed in the Commission's Report, the predominant users of securities ratings, such as broker-dealers, banks, mutual funds, pension funds, and insurance companies, conduct their own independent credit analysis, where NRSRO credit ratings are only one of several important inputs to their internal credit assessments and investment analyses.³²

²⁹ Complaint, ¶ 248.

³⁰ "Report of Investigation Pursuant to Section 21(a) of the Securities Exchange Act of 1934: Moody's Investors Service, Inc.," SEC Release No. 62802, August 31, 2010. Mr. Coffman could not remember having read this SEC Report (Coffman Deposition, 154:13-23).

Also, note that institutional investors' skepticism of CPDO ratings dates back to at least 2006. See, for example, <http://www.pimco.com/Pages/IO%20December%202006.aspx>.

³¹ Coffman Report, Footnote 65.

³² Letter from SEC Chairman William H. Donaldson to the Honorable Richard H. Baker, Chairman, Subcommittee on Capital Markets, Insurance and Government Sponsored Enterprises, U.S. House of Representatives, dated June 4, 2003, p. 4.

This directly contradicts the discussion in ¶ 70-77 of the Coffman Report suggesting such replication was implausible, or even impossible. Similarly, during a June 29, 2005, Congressional Hearing (from which Mr. Coffman also cites certain excerpts),³³ Frank Partnoy warned the panel that investors' knowledge of the rating methodologies was allowing them to "game," or take advantage of the credit rating agencies models to achieve the highest possible rating:

Increasingly, institutions are using structured finance techniques to game ratings, to take advantage of ratings.... It often helps when a rating is wrong, paradoxically. When ratings are wrong, that can create incentives for people to create transactions, and there are now trillions of dollars of credit derivatives in particular, or collateralized debt obligations, which were essentially created just because there are regulations that gives a ratings benefit.³⁴

21. In an attempt to criticize my opinion, Mr. Coffman actually provides yet another good counterexample to his own assertions. In his report, he explains that he was retained to audit a particular issuer's valuation models for certain structured securities.³⁵ Surprisingly, he argues that his experience is evidence *against* diffusion of knowledge. On the contrary, it shows that issuers not only built internal models to assess credit risk and security values, but then also engaged outside consultants to check their models, leading to an additional layer of individuals who had at least some knowledge of the models necessary to assess the accuracy of credit ratings. The fact that it took several weeks for Mr. Coffman and his colleagues to assess the models is irrelevant. For a fixed income investor with millions or billions of dollars at stake, it surely would make sense to spend weeks developing models if such models could potentially give the investor an edge over the market. Mr. Coffman's baseless claim that it is implausible or inefficient for investors to independently investigate ratings and that "[t]here is no evidence to suggest anyone undertook such an effort"³⁶ is contradicted by evidence from the

³³ Coffman Report, Footnote 71.

³⁴ "Legislative Solutions for The Rating Agency Duopoly," Hearing Before the Subcommittee on Capital Markets, Insurance and Government Sponsored Enterprises of the Committee on Financial Services, U.S. House of Representatives, June 29, 2005, pp. 36-37.

³⁵ Coffman Report, ¶ 73. Mr. Coffman also lists in Coffman Report Appendix B that he "[p]erformed detailed audit of CDO valuation models employed by a banking institution to satisfy regulators."

³⁶ Coffman Report, ¶ 71. Note that Mr. Coffman conceded during his deposition that he had no specific knowledge on how institutional investors make investment decisions or conduct their independent investment analyses. See, Coffman Deposition, 181:7-183:18.

previously discussed SEC report.³⁷ In Appendix A, I provide ample additional evidence to show that market participants indeed conduct such analyses during their regular course of business.

22. Mr. Coffman attempts to obfuscate things by saying that, despite the wealth of publicly disclosed information on ratings models, things were not perfectly transparent and all necessary data was not publicly available.³⁸ Although assessing the credit risk of specific structured finance securities backed by subprime or Alt-A mortgages would require modeling the performance of the loans and deal-level cash flow modeling, issuing institutions, underwriting banks, credit analysts, bond insurers, auditors, fixed income investors and traders, and even some researchers would have access to loan level data and sophisticated models. In fact, issuing banks most likely would have already modeled the default risk and expected losses as part of structuring the deal.³⁹ Further, the originators of the mortgages underlying RMBS securitizations would have loan-level information for every single mortgage in the RMBS trust. Additionally, commercially available databases such as *LoanPerformance* offered necessary loan-level data to a wider audience during the putative Class Period.⁴⁰ Commercially available databases such as *Intex* made it possible for investors to model deal-level cash flows.⁴¹ Credit analysts further suggest “prodigious amounts” of such data and information has been publicly available through various channels.⁴² It would not have required much investigation for Mr. Coffman to

³⁷ “Report of Investigation Pursuant to Section 21(a) of the Securities Exchange Act of 1934: Moody’s Investors Service, Inc.,” SEC Release No. 62802, August 31, 2010.

³⁸ Coffman Report, ¶¶ 71-77. Mr. Coffman (¶ 74) raises the notion that because of non-quantitative aspects inherent in the rating process (a committee decides on the final rating) one can never fully re-create a rating. However, sophisticated market participants could determine when actual observed ratings deviated significantly from what they *presumed* Moody’s model output to be and investigate such cases more fully.

³⁹ An introduction to how issuers structure deals was given in Stulz Report ¶¶ 21-22. Also see, for example: “At Goldman, there was even a phrase for the way bankers put together mortgage securities. The practice was known as ‘ratings arbitrage,’ according to former workers. ... The rating agencies may have facilitated the banks’ actions by publishing their rating models on their corporate Web sites.” (“Prosecutors Ask If 8 Banks Duped Rating Agencies,” *The New York Times*, May 12, 2010.) Concerns about ratings arbitrage were an issue for investors even before the putative Class Period, as shown in Appendix A.

⁴⁰ *LoanPerformance* claims that “Mortgage originators, servicers, securities issuers and investors rely on this critical performance information to monitor and analyze credit risk and make securities valuation and pricing decisions” since well before the putative Class Period (“LoanPerformance Mortgage Securities Database Surpasses \$1 Trillion Milestone,” *LoanPerformance Press Release*, July 26, 2005). Such data has also been used by Moody’s (“Residential MBS: Economics Drive Both Volume Surge and Favorable Pool Characteristics,” *Moody’s Investors Service*, November 22, 2002, p. 6).

⁴¹ www.intex.com/main/solutions_cashflow.php.

⁴² See, for example: “This process is likely to be aided considerably by the intrinsic transparency of the public RMBS market, where prodigious amounts of loan-level data related to servicer performance are available, in most instances, over several years or even decades.” (“RMBS Residuals: A Primer,” *Bear Stearns*, September 2006, pp. 5-6); Also, see: “Investors can get information and an orientation to rating agency modeling approaches through: • Data published by rating agencies; • Discussions with specific rating agency analysts; • Research published by underwriters of CDO deals; • Investment bankers who structure

discover that *RiskModel*TM by *LoanPerformance* made it possible for subscribers to obtain all the statistics required to evaluate expected losses on mortgage pools, and that one of the advertised benefits of the model was “Decreasing coverage on securitization in negotiations with rating agencies.”⁴³ *LoanPerformance* also sold this type of analysis as one of its products.

23. The key here is that credit ratings are *public* opinions expressed by the rating agencies. Market participants often possess richer information about (the credit risk of) the rated securities than Moody’s. Were there systematic and “flagrant” overrating for certain repeat structured finance issuers, as is alleged, then market participants, including issuers and underwriting banks, mortgage originators, institutional investors, credit analysts, traders, consultants, risk managers, and finance researchers (see concrete examples of such producers of knowledge in Appendix A) could have detected it, and some would have shared their findings. Those potential class members who obtained such relevant knowledge before they purchased Moody’s stock could not have relied on the alleged misstatements or omissions for their investment decisions.
24. Another key implication of knowledge diffusion is that, in a purported efficient market, the valuation impact of this knowledge (if any) would be priced into Moody’s stock through investors trading on their knowledge. Consequently, any valuation implication for Moody’s stock resulting from the alleged systemic overrating discovered by investors would have been incorporated into the stock price. By implying that not every investor could (or would) replicate Moody’s ratings models, Mr. Coffman seems confused about the implications of knowledge diffusion. In an efficient market, information is not required to be costlessly available to every single investor for it to be fully reflected in the stock price.⁴⁴ Literature has shown “information that is less widely known but

CDO deals. Bankers can provide information concerning the modeling framework used by a particular agency, as well as specific deal information...; • Use of market tools such as Intex ...” (“CDO Primer,” *The Bond Market Association*, 2004, pp. 27-28).

⁴³ <http://www.facorelogic.com/products/risk-model.jsp>, <http://www.facorelogic.com/uploadedFiles/Literature/RiskModel.pdf>. *RiskModel* has been commercially available prior to and throughout the putative Class Period. See, for example, <http://www.loanperformance.com/pressreleases/default.aspx>.

⁴⁴ For example, “What makes the ECMH [efficient capital markets hypothesis] non-trivial, of course, is its prediction that, even though information is *not* immediately and costlessly available to all participants, the market will act *as if* it were.” (Ronald Gilson and Reinier Kraakman, “The Mechanisms of Market Efficiency,” *Virginia Law Review*, v70(4), p. 552). The same article also states that “any information that is accessible to significant portions of the analyst community is properly called ‘public,’ even though it manifestly is not.” (p. 572). Further, “the market may be efficient if ‘sufficient numbers’ of investors have ready access to available information.” (Eugene Fama, “Efficient Capital Markets: A Review of Theory and Empirical Work,” *The Journal of Finance*, 1970, Vol 25(2), p. 388). “[E]ven if the number of traders following a stock is small relative to the number of outstanding shareholders, the stock can be expected to be efficiently priced as long as a number of interested traders use the

nonetheless public, is incorporated into share prices almost as rapidly as information know to everyone through the trading of savvy professionals.”⁴⁵ There is a well-developed field of research in financial economics investigating trading behaviors and price formation.⁴⁶ Mr. Coffman’s deposition testimony does not show familiarity with this research.⁴⁷

25. In a further misguided attempt to criticize my discussion linking knowledge diffusion and market efficiency, Mr. Coffman suggests that trading on any such knowledge would have necessarily involved criminal activity.⁴⁸ I am not an attorney, however it seems that all that is required here is that some firms or individuals who became aware of the allegedly undeserved ratings traded on such information. An individual or a firm could have *surmised* the alleged fraud from independent analysis of ratings (rather than direct, nonpublic knowledge of the alleged fraud) given the wealth of accessible facts and information. These individuals or institutions could freely express their views on how Moody’s conducted its business to others or trade Moody’s stock based on such views.
26. Critically, underlying this whole argument is a somewhat unique situation in this matter given Plaintiffs’ claims and the numerous actors and firms that would necessarily be involved in the alleged systematic fraud (as well as the high degree of disclosure about Moody’s methodologies). For the sake of argument, contrast this case with a hypothetical scenario in which a CFO knew a company’s financial results would be restated due to some internal fraud. In that example, suggesting the CFO widely (and illegally) leaked

publicly available information.” (Stephen Ross, Randolph Westerfield, and Jeffrey Jaffe, “Corporate Finance,” McGraw-Hill, Sixth Edition, pp. 348-349).

⁴⁵ Ronald Gilson and Reinier Kraakman, “The Mechanisms of Market Efficiency Twenty Years Later: The Hindsight Bias,” Harvard John M. Olin Discussion Paper Series, No. 446, November 2003, p. 10. The paper also notes that the authors do not believe “market efficiency generally depends on the views of the average investor” and there are mechanisms by which “the views of informed traders enter price, even when these knowledgeable investors are a minority in the market” (footnote 21).

⁴⁶ Empirical evidence from market microstructure research suggests that informational efficiency can be achieved in real time and does not require information to be disseminated to every investor. For example, Greene and Watts find that price response to earnings announcement is realized over the first few post-announcement trades (Jason T. Greene and Susan G. Watts, “Price Discovery on the NYSE and the NASDAQ: The Case of Overnight and Daytime News Releases,” *Financial Management*, v25(1), 1996, pp. 19-42). Busse and Green find that analyst report information from CNBC is fully incorporated into a firm’s stock price within minutes (Jeffrey A. Busse and T. Clifton Green, “Market Efficiency in Real Time,” *Journal of Financial Economics*, 2002, v65, 2002, pp. 415-437). Kim et al. further find that competition among informed traders causes analyst recommendations pre-released only to select clients to be reflected in a firm’s stock price within minutes (Sok Tae Kim, Ji-Chai Lin, and Myron B. Slovin, “Market Structure, Informed Trading, and Analysts’ Recommendations,” *The Journal of Financial and Quantitative Analysis*, 1997, v32(4), pp. 507-524).

⁴⁷ Coffman Deposition, 97:16-98:20.

⁴⁸ Coffman Report, ¶ 81.

the restatement information is indeed speculative. However, this is not such a situation, as I noted in my deposition:

Now, if you think of a situation where information about the fraud is confined to the executive suite of a company, then it would be pretty straightforward to figure out who had that information and who did not. There are other cases where the information can be widespread or can be very diffused across investors, where it's not going to be possible to define boundaries of who knows and who doesn't know without asking investors about what they knew and when. My discussion of knowledge in my report implies that we are in this situation with this litigation.⁴⁹

III.B. POTENTIAL BELIEF THAT MOODY'S SUCCUMBED TO ALLEGED CONFLICTS OF INTEREST

27. The Stulz Report showed that characteristics of the structured finance rating business and inherent conflicts of interest related to the issuer-pay model were in plain view to the public before and during the putative Class Period, a fact which is also acknowledged by Mr. Coffman.⁵⁰ As the International Organization of Securities Commissions stated in a report that preceded the putative Class Period, "Perhaps the single greatest concern facing CRAs [credit rating agencies] is identifying and addressing **potential and actual conflicts of interest** that may inappropriately influence the rating process."⁵¹ The Stulz Report also discussed the heated debate among market participants on these conflicts mainly to document the fact that there was an ongoing, public conversation with divergent views.
28. However, the Coffman Report repeatedly misrepresents the conclusions I drew from materials presented in the Stulz Report and often mischaracterizes my statements (or simply fails to understand them).⁵² For example, I never stated that the public discussion about potential conflicts of interest presented in my report was evidence the market

⁴⁹ Stulz Deposition, 133:20 -134:11.

⁵⁰ "Q. It's true the potential conflict of interest was well known and discussed in Congress by analysts and in the general news media throughout the class period; correct? A. Yes, that's correct" (Coffman Deposition, 173:14-18). Note also, Plaintiffs devoted an entire section of the Complaint to this theory. See Section III, titled: "Unique Characteristics of the Structured Finance Market Intensified Conflict of Interest Pressures and Undermined Moody's Independence," which presents Plaintiffs' detailed argument for why *inherent* facets of the structured finance market (facets present in the market since well before the Class Period) worked to enhance conflicts. See also Complaint, ¶¶ 41-46.

⁵¹ "Report on the Activities of Credit Rating Agencies," The Technical Committee of the International Organization of Securities Commissions, September 2003, p. 12: <http://www.iosco.org/library/pubdocs/pdf/IOSCOPD153.pdf>, emphasis added.

⁵² See Coffman Report, ¶¶ 8, 51-69.

believed Moody's had in fact succumbed to alleged conflicts, as Mr. Coffman suggests. What's more, I never suggested – let alone stated – that “everybody knew that the ratings were tainted,” as claimed by Plaintiffs’ Reply Memorandum (p. 13).⁵³ Rather, one reason for introducing the volume of public discussion on these issues was to show that there was a lively debate containing strikingly different views. Clearly, for such a debate to have occurred, some people must have believed Moody's had a high risk of succumbing to conflicts of interest (or had already succumbed to the conflicts). I also introduced the extensive public discussion to show that none of Plaintiffs’ alleged incremental misrepresentations or omissions (e.g. the Code of Conduct) changed investors’ opinions of ratings or led investors to believe that conflicts of interest had been eliminated, points with which Mr. Coffman agrees (see Coffman Report, ¶ 85).

29. In short, Mr. Coffman criticized my introduction of materials discussing potential conflicts based on the incorrect assumption that their purpose was to show the market as a whole believed that Moody's had already succumbed to the alleged conflicts, but he does not dispute that the materials themselves clearly show relevant issues were widely disclosed and debated, which was the actual purpose of citing these materials.
30. Nonetheless, although I agree with Mr. Coffman and Plaintiffs that some market participants, after analyzing various relevant factors, concluded that Moody's was managing conflicts of interest effectively prior to (or during) the putative Class Period, the debate flagged in the Stulz Report shows that was far from a universal view. As results from a Bond Market Association survey published on February 23, 2006 (and listed as “potentially material news” by Mr. Coffman) show, many market participants believed otherwise.⁵⁴ The Stulz Report discussed several examples of individuals who held this view: Congressman Michael Fitzpatrick remarked in 2006 that “[t]he lack of competition in the credit rating industry has...allowed abusive industry practices and conflicts of interest to go unchecked;” industry consultant Ms. Janet Tavakoli criticized rating agencies in 2005 for “enjoying a cozy relationship with structured finance issuers;” and Mr. Frank Partnoy commented in 2005 that for structured instruments, “the agencies

⁵³ See Stulz Report, ¶¶ 38–50 for what I did say.

⁵⁴ According to the February 23, 2006 article, a Bond Market Association study found that “45 percent of borrowers were not comfortable that agencies were effectively managing potential conflicts of interest.” “UPDATE 1-Survey Shows Concern Over Rating Agency Competition,” *Reuters News*, February 23, 2006, at COFFMAN 03388-9.

have become more like ‘gateopeners’ than gatekeepers.”⁵⁵ In addition, Mr. Sean Egan, the head of a credit analysis and ratings firm, stated during his Senate testimony in 2005: “the conflicts cannot be managed. They simply cannot be managed.”⁵⁶

31. These opinions and commentary were published in media, public press, as well as business publications. An investor who was aware of these opinions could have decided to reach a conclusion similar to that of the survey respondents, Congressman Fitzpatrick, Ms. Tavakoli, Mr. Partnoy, or Mr. Egan. Therefore, although not everyone believed ratings were tainted, some people clearly did, and they broadcast that view to others, including individuals who were not necessarily even familiar with structured finance ratings. Mr. Coffman agreed, during his deposition, that “there could be a range of beliefs that people could hold” during the Class Period regarding whether Moody’s had succumbed to the conflicts of interest as alleged by Plaintiffs.⁵⁷ Thus, this suggests each potential class member needs to be questioned individually to determine whether (and if so, when) they believed Moody’s business was plagued by unchecked conflicts of interest, and whether they relied on Moody’s alleged misstatements or omissions about its business practices for their investment decisions.

III.C. ADDITIONAL CRITICISMS RAISED BY MR. COFFMAN

32. It is also worth noting that Mr. Coffman attempts to dismiss the materials I introduced about knowledge of the limitations of credit ratings generally, and in structured finance specifically, as “irrelevant and at odds with easily observable economic facts which support their, at least perceived, value.”⁵⁸ Mr. Coffman is again misstating my opinion when he suggests that I believe ratings have *no* value. The existing empirical evidence shows that some investors rely on ratings and others do not. Ratings are part of the information set of most investors, but some investors use ratings only to trade against them. It follows that the importance of agency ratings varies across investors. The discussion in the Stulz Report (¶¶ 15-50) was meant to point out why the claims in the Complaint are economically incoherent and dispel any notion that the events of 2007 and

⁵⁵ See Stulz Report, ¶¶ 40, 46, 47.

⁵⁶ "Examining the Role of Credit Rating Agencies in Capital Markets," Hearing before the Committee on Banking, Housing, and Urban Affairs, U.S. Senate, February 8, 2005.

⁵⁷ Coffman Deposition, 224:17-227:4.

⁵⁸ Coffman Report, ¶¶ 52–54.

2008 (e.g. clustered rating downgrades) were in any way unique or on the surface consistent with Plaintiffs' allegations, as the Complaint's lengthy passages dedicated to these topics seem to suggest they were.⁵⁹

IV. MATERIALITY AND LOSS CAUSATION

33. In my first report, I conducted an event study for the dates on which Plaintiffs alleged that Moody's made misrepresentations (Stulz Report, ¶¶ 57-63, Exhibit 6).⁶⁰ My event study found that no day on which Moody's allegedly made a misrepresentation was associated with a statistically significant and positive abnormal return.⁶¹ It follows from this result that, if the market for Moody's stock was efficient at the time, no alleged misrepresentation provided new or material information to the market. In an efficient market, old news has no stock price impact.⁶²
34. Mr. Coffman and Plaintiffs seem surprised that I conducted such an analysis. In their currently articulated view, it appears they are suggesting the alleged misrepresentations conveyed no new information to the market, and Moody's allegedly only made omissions rather than misstatements.⁶³ In fact, Mr. Coffman does not consider most of Plaintiffs' alleged misstatements to be even "potentially material," according to his report's Exhibit 1.⁶⁴ If this is their theory, then to demonstrate materiality they need to conduct an event study to show that when the market learned about the alleged omissions, it reacted

⁵⁹ See, for example, Complaint ¶¶ 51, 248 – 280.

⁶⁰ This exhibit referenced days mentioned in the Complaint, Memorandum for Class Certification, and Opinion and Order filed February 23, 2009.

⁶¹ This was noted in ¶ 63 of the Stulz Report. In the language of event studies, a statistically significant abnormal return on an event day is required to conclude that a statement made that day had an impact on the stock price. In the presence of a significant abnormal return, however, it may not always be possible to conclude that the specific disclosure at issue impacted the stock price because there may be other contemporaneous statements or confounding events. If there are multiple disclosures that impact the stock price at the same time in the same direction, the event study method per se does not make it possible to attribute the observed abnormal return to a single disclosure.

None of the abnormal stock returns on these alleged misstatement dates is positive in a statistically significant manner according to Coffman Report, Exhibit 1, except for March 1, 2007. The alleged misstatement is Moody's statement regarding its independence in its 10-K. The 10-K is listed in Coffman Report Exhibit 1 with two other pieces of information. Given Mr. Coffman's position that none of the alleged misstatements contains any new information (Coffman Report ¶ 85), it is unclear why he includes the 10-K in his Exhibit 1, nor has he shown that the stock price movement was in reaction to the alleged misstatement in the 10-K rather than other information contained in the 10-K or other contemporaneous news.

⁶² "The usefulness of such a study comes from the fact that, given rationality in the marketplace, the effects of an event will be reflected immediately in security prices." (See Craig. A. MacKinlay, "Event Studies in Economics and Finance," *Journal of Economic Literature*, v35(1), March 1997, p. 13).

⁶³ Mr. Coffman criticizes me for not differentiating "between a misstatement or omission that a reasonable person would expect would move a stock higher and one that would not" (Coffman Report, ¶ 85).

⁶⁴ The only exception is Moody's 2006 10-K released on March 1, 2007, which Mr. Coffman includes in his Exhibit 1 without identifying specifically what information contained in the 10-K is "potentially material."

adversely. I will explain below that neither Plaintiffs nor Mr. Coffman has provided such evidence.

35. A proper event study requires an economist to first identify the events of interest, or the disclosures that revealed the alleged specific omissions, and then determine after controlling for market and industry effects, whether any stock price changes in response to the disclosed information (rather than other information unrelated to the allegations) rise to the threshold of statistical significance.⁶⁵ Mr. Coffman essentially agrees with this proposition, given the discussion in ¶¶ 83-89 of his report. However, using this standard, Mr. Coffman has failed at the first step, as he does not even attempt to identify disclosures *related to the specifically-alleged fraud in this matter*.⁶⁶ In other words, merely conducting a mechanical statistical analysis and showing examples of statistically significant abnormal stock price drops on certain given days misses a crucial step to demonstrate materiality as an economist, and the abnormal stock price movements resulting from such a mechanical analysis could be caused by a variety of firm-specific factors that are economically unrelated to the alleged misstatements or omissions.
36. The Coffman Report, using a statistical analysis similar to my own in many respects, essentially agrees with my conclusion that there are only two alleged disclosure days on which the market reacted adversely -- August 20, 2007 and May 21, 2008 -- and the Coffman Report does not dispute my opinion that the market did not react on the other alleged disclosure days.⁶⁷ I disagree with the Coffman Report, however, about whether the price reactions on those two days could be used to demonstrate the materiality of the alleged misstatements/omissions. Interestingly, Mr. Coffman even admitted during his deposition that for a given alleged corrective disclosure he has formed no opinion as to

⁶⁵ Craig A. MacKinlay, "Event Studies in Economics and Finance," *Journal of Economic Literature*, v35(1), March 1997.

⁶⁶ Mr. Coffman seems to be willing to take *any* alleged corrective disclosure that "meet[s] whatever alternative threshold [is] necessary to support a legal finding of loss causation" as given, regardless of whether the stock price movement on the alleged corrective disclosure day is even economically linked to, or would not have happened but for the allegedly omitted information (See Coffman Report, footnote 3). Mr. Coffman failed to point out to any date other than sometime in October 2008 that he feels "fairly confident" would constitute a corrective disclosure date during his deposition (Coffman Deposition, 242:21 – 248:17). He suggests that "the declines in price during the Congressional testimony in October 2008 I'm fairly confident would be – I would be able to conclude they are corrective disclosures" (Coffman Deposition, 247:7 – 247:10). As noted in Stulz Report Exhibit 6, Moody's abnormal stock return on the day of the Congressional hearing (October 22, 2008) was not statistically significant. Neither was the abnormal return statistically significant based on my replication of Mr. Coffman's event study (see Coffman Report, ¶¶ 41-45 for a description of his methodology).

⁶⁷ The Coffman Report suggests (¶ 97) that October 17, 2007, is also a statistically significant day due to a Moody's lower-than-expected earnings announcement; however, according to his own Exhibit 1, there was no "potentially material" news on that day, and the stock price reaction is not significant. That day is not significant in my event study either.

whether “the particular information released that day is sufficiently linked to the fraud that’s being alleged.”⁶⁸ Given this statement, he cannot offer any reliable opinion about economic materiality.

37. With respect to loss causation generally, Mr. Coffman states, without any basis, that “Plaintiffs have articulated an economically logical and coherent *theory* of loss causation and have identified potential dates with statistically significant price declines that are at least arguably causally related to the alleged misstatements and omissions.”⁶⁹ I respectfully disagree. Mr. Coffman’s argument on the foreseeable economic consequences of the alleged fraud has a fatal logical flaw. While “the foreseeable consequences to Moody’s” *could* include “1) regulatory, legislative and or law enforcement scrutiny; 2) disclosure model errors; 3) an anomalous number of ratings downgrades; and 4) loss of business and deterioration of financial results,” all of these events could also occur (and most often do occur) in the absence of any alleged wrongdoing simply through the normal course of business, and hence would fail the “but for” test suggested by Mr. Coffman.⁷⁰ Mr. Coffman contradicts himself when he states that rating downgrades could happen “for a variety of reasons,” and hence would be irrelevant for testing materiality, but regulatory action and model errors, both of which also happen for many reasons, would somehow be more “revealing.”⁷¹
38. In the remainder of this section, I proceed in two steps. First, I clarify what certain evidence presented in the Stulz Report says about economic materiality of the alleged fraud given allegations presented in the Complaint and in the Memorandum for Class

⁶⁸ Coffman Deposition, 251:2-5, 253:17-254:3.

⁶⁹ Coffman Report, ¶ 94. On a related topic, Mr. Coffman states that my argument that different class members have different incentives for pursuing claims based on different holding periods “could be lodged against any putative class where there are multiple or partial corrective disclosures” (Coffman Report, ¶ 102). Note that there is one key wrinkle in this matter that makes it different from typical Rule 10b-5 classes. My understanding is that typical cases have multiple disclosures *within* the Class Period, with a final disclosure immediately (or relatively soon) after the Class Period. In such cases, when a class member sells her shares between disclosure dates, another (potentially new) class member must have necessarily stepped in and purchased the shares from them. Thus, in aggregate, roughly the same number of shares have damage claims with respect to each individual disclosure. I was merely pointing out that, in this case, relatively few class members will actually be able to show economic loss pursuant to the alleged May 21, 2008 disclosure or October 22, 2008 disclosure, as they happened seven and twelve months after the purported Class Period, respectively, and it is likely many class members sold their shares to other investors in the interim.

⁷⁰ Coffman Report, ¶ 96. Given the fact that Plaintiffs note reputation, objectivity, and independence were key aspects of Moody’s business model (see, for example, Memorandum for Class Certification, p. 4), one seemingly obvious, foreseeable consequence of the alleged fraud would be an across the board, permanent impairment to Moody’s revenues and business prospects upon the revelation that Moody’s was neither objective nor independent. The Stulz Report addressed this in ¶¶ 97–98, showing that Moody’s segment revenue was not impacted across-the-board following alleged disclosures (revenue from some segments even grew) and that securities analysts viewed the lost business as largely cyclical. Mr. Coffman has basically ignored these points.

⁷¹ Coffman Report, ¶¶ 86–90.

Certification, addressing Mr. Coffman's criticisms and the shortcomings of his analysis along the way. Second, I review what the two significant days can tell us about the economic materiality of the allegations, addressing the limited analysis of these days presented in the Coffman Report.

IV.A. HOW THE MARKET LEARNED ABOUT THE ALLEGED FRAUD ACCORDING TO THE COMPLAINT AND THE MEMORANDUM FOR CLASS CERTIFICATION

39. According to the Complaint, the alleged lack of independence led to overrating of subprime-related structured finance securities.⁷² This allegation of overrating is at the core of the Complaint as I read it. In particular, the Complaint states that “[i]t may have been the crisis that actuated the re-ratings, but it was the over-ratings that created the crisis.”⁷³ Further, the Complaint states that “Moody’s recent subprime structured finance securities ratings, in the aggregate, were grossly inflated. This is powerful indication, if not actual *quod erat facendum*, that Moody’s evaluations at issuance had been systematically corrupted.”⁷⁴ The Complaint lists “[a]mong the disclosures that contributed to the market’s revaluation of Moody’s stock,” the date of July 12, 2007, when Moody’s “announced its first very large wave of subprime RMBS downgrades, which gave the market reason to believe that Moody’s prior ratings were materially inflated.”⁷⁵
40. Given these allegations, I conducted an event study that investigated Moody’s abnormal stock return on days when major downgrades were disclosed, but found no significant abnormal returns on these days.⁷⁶ In other words, insofar as Plaintiffs attempt to link downgrades to disclosure of the alleged omissions, these results are not consistent with Plaintiffs’ claim that the misstatements or omissions were material for stock investors. Mr. Coffman, on the other hand, seems to hold quite a different view from the Complaint

⁷² Complaint, ¶¶ 230-235. Technically, a rating that does not reflect all existing information could just be noisy and not necessarily inflated or biased. However, in the context of the Complaint, it seems clear that the allegations are that Moody’s ignored information to avoid giving lower ratings.

⁷³ Complaint, ¶ 248.

⁷⁴ Complaint, ¶ 250.

⁷⁵ Complaint, ¶ 400. The Complaint had an entire section (II.D.2) on the “unprecedented” wave of downgrades in 2007 and 2008, which seemed to suggest they viewed downgrades as some kind of corrective disclosure. During his deposition, Mr. Coffman also stated that “[i]t’s certainly true the allegations are that they sought a short-run profit opportunity at expense of their reputation by inflating credit ratings” (Coffman Deposition, 236:3-17).

⁷⁶ See Stulz Report, ¶ 92.

as he considers downgrades neither “revealing” nor “potentially material.”⁷⁷ Given that my review of these downgrades was simply a direct response to Plaintiffs’ claims, it is a mystery to me why Mr. Coffman so vociferously criticizes my analyses related to the downgrades (Coffman Report ¶ 90).

41. The Complaint (¶ 400) lists a number of other disclosures that purportedly informed the market about the alleged fraud. I also investigated these disclosures, considering further refinements noted in the Memorandum for Class Certification and the February 23, 2009 Opinion and Order, and reported my results in Exhibit 6 of the Stulz Report. As noted in the Stulz Report and above, only the alleged curative disclosures on August 20, 2007 and May 21, 2008 have significant negative abnormal returns. I will discuss these two days further in the next subsection. On all other alleged disclosure days, the stock price did not react in a statistically significant way. Mr. Coffman says (and I agree) that, in an efficient market, the stock price does not react to information that is not surprising.⁷⁸ Thus, the lack of a significant price reaction to these other alleged disclosures suggests that the information contained in these alleged disclosures was already known and incorporated in the stock price, or was not material.
42. The Complaint also has a section titled “Exposé: Moody’s Unmasked” that discusses a *Wall Street Journal* article published on April 11, 2008.⁷⁹ This disclosure is also mentioned in the Opinion and Order.⁸⁰ I examined the reaction of Moody’s stock price to the publication of this article and found no significant abnormal return. If Moody’s practices were masked before that article and became “unmasked” upon its publication, the market did not seem to care. Mr. Coffman also mentions *The Wall Street Journal* article on April 11, as well as one on May 23, 2008, as “[e]xamples of conduct allegedly inconsistent with Moody’s statements regarding independence.”⁸¹ However, Mr. Coffman also apparently does not find statistically significant stock price declines on these days; they are not cited in his materiality section, and using his data to replicate his analysis, results confirm they are not statistically significant.

⁷⁷ Coffman Report, ¶ 90. Coffman Deposition, 58:10-63:14.

⁷⁸ Coffman Report, ¶ 85.

⁷⁹ Complaint, ¶ 344.

⁸⁰ Opinion and Order, filed February 23, 2009, pp. 24, 35.

⁸¹ Coffman Report, ¶ 23.

43. In addition to allegations related to conflicts of interest, the Complaint and the Memorandum for Class Certification also allege that Moody's misstated its rating methodologies related to the assessment of loan originators.⁸² I examined Moody's stock price reactions on the days when alleged misstatements or omissions were made or allegedly corrected (Stulz Report, Exhibit 6). There is no significant stock price return on any such day. Mr. Coffman briefly reiterates this line of allegations, but fails to specify any corrective disclosure related to such alleged misstatements or omissions, let alone provide any economic evidence in the form of significant abnormal returns to show that these alleged misstatements or omissions were material.⁸³ None of the alleged misstatements or corrective disclosures related to loan originator assessments is included in his list of "potentially material news" according to Exhibit 1 to the Coffman Report.
44. Finally, Plaintiffs also make a broader argument for materiality and loss causation, suggesting that Moody's alleged misrepresentations and omissions caused the entirety of Moody's stock price drop over the period of the subprime crisis.⁸⁴ A summary of this argument is provided in the Memorandum for Class Certification:

As Moody's misconduct and misrepresentations slowly came to light, occasioning severe regulatory scrutiny and sanctions ..., Moody's reputation ... and Moody's structured finance ratings business ... collapsed, directly causing Moody's share price to collapse This latter collapse was specific to Moody's, whose share price trajectory followed its own path...⁸⁵

The Complaint is clearer about the collapse of the stock price, stating that:

Moody's share prices during the class period can not be explained as epiphenomena of broader factors operative in the wider stock market or among comparable companies in the same industry.⁸⁶

Mr. Coffman ignores and implicitly dismisses this argument in his report.⁸⁷ He even attacks me for having addressed these broad claims, calling it a "distraction."⁸⁸ In the context of Plaintiffs' initial claims, though, it should be clear why the Stulz Report

⁸² Complaint, ¶ 114; Memorandum for Class Certification, pp. 6–8.

⁸³ See Coffman Report, ¶ 25, which discusses the allegation related to rating methodologies. It is unclear from Mr. Coffman's discussion which disclosures corrected the alleged misstatements and omissions related to rating methodologies. Also see Coffman Deposition 159:3-162:2.

⁸⁴ Complaint, ¶ 2.

⁸⁵ Memorandum for Class Certification, pp. 9–10.

⁸⁶ Complaint, ¶ 401.

⁸⁷ See, for example, Coffman Report, ¶¶ 12–13, 91, 101.

⁸⁸ Coffman Report, ¶¶ 11–13, 91.

examined the causes of the financial crisis and the lack of scientific evidence tying the crisis to Plaintiffs' arguments.⁸⁹

45. Financial economists have well-established scientific methods to assess whether a stock's return over a period of time diverges from the return of other stocks. I used these techniques in my first report and showed that Moody's stock price development over time is not significantly different from the S&P 500 Financials Index. It appears that Mr. Coffman does not argue with my conclusion, and indeed agrees with me that simply citing un-adjusted stock returns (as done in the Complaint) would not be scientific.⁹⁰

IV.B. THE TWO ALLEGED DISCLOSURE DATES WITH STATISTICALLY SIGNIFICANT STOCK RETURNS

46. My first report provides scientific evidence that, among the many alleged misrepresentation and disclosure days proffered by Plaintiffs, only two days -- August 20, 2007 and May 21, 2008 -- have statistically significant abnormal returns. Mr. Coffman does not provide evidence of other alleged disclosure days with statistically significant negative abnormal returns. In the Stulz Report, I discussed both dates extensively. I will briefly discuss some additional issues relating to these days here in light of arguments advanced in the Coffman Report.
47. The Stulz Report (§ 104-108) outlines why, in my opinion, Plaintiffs have not linked the price decline on August 20, 2007 to their specific allegations. The Stulz Report points out that it was not new news that Moody's was facing Congressional scrutiny and pointed criticism from legislators (e.g. Congressman Frank and Senator Dodd). Mr. Coffman states that the comments by Republican Senator Richard Shelby "may have suggested to the market that future legislation calling for strong regulatory scrutiny of the rating agencies would have broad bipartisan support."⁹¹ However, it remains unclear how regulatory scrutiny, in and of itself, is economically linked to the alleged fraud in this matter.

⁸⁹ In contrast to Mr. Coffman's protestations (also noted in Reply Memorandum, p. 20), the Complaint clearly attempts to attribute the entire financial crisis, and hence the entirety of Moody's stock price decline, to Moody's alleged misconduct. See, for example, "[t]he depth of the market collapse caused by Moody's ratings misconduct is hard to overstate" (§ 383); and "[i]t may have been the crisis that actuated the re-ratings, but it was the over-ratings that created the crisis" (§ 248). That being said, I agree with Mr. Coffman's general sentiment on this point: it seems absurd to suggest that Moody's "created the crisis."

⁹⁰ Coffman Report, §§ 11, 83-84, 101.

⁹¹ Coffman Report, § 89.

48. The credit rating agencies have been the object of regulatory and legislative scrutiny for a long time. This scrutiny generally increases when there is an outcry about some alleged important mistake by the agencies. For example, there was much debate about the fact that the rating agencies kept Enron at an investment-grade rating until days before its bankruptcy filing.⁹² At that time, a major criticism was that the rating agencies “were dismally lax in their coverage of Enron,” as a bipartisan committee chaired by Senators Lieberman and Thompson put it.⁹³ The Lieberman/Thompson Committee’s investigation concluded that “the agencies did not perform a thorough analysis of Enron’s public filings; did not pay appropriate attention to allegations of financial fraud; and repeatedly took company officials at their word, without asking probing, specific questions – despite indications that the company had misled the rating agencies in the past.”⁹⁴
49. There are a whole host of reasons why regulators would scrutinize an industry or company that have absolutely nothing to do with fraud and a host of reasons why a stock price would react to changing likelihood of regulatory actions.⁹⁵ The hearings on rating agencies’ performance that followed Enron’s bankruptcy were not motivated by allegations of fraud on the part of the agencies, but instead by concerns about the quality of their work. Mr. Coffman should be able to recognize the determinants and consequences of regulatory attention to the rating agencies, as his Exhibit 1 cites at least 15 news stories related to regulation and legislation throughout the putative Class Period. Some are clearly unrelated to Moody’s alleged succumbing to issuer-pay conflicts of interest.⁹⁶
50. Further, if one concedes that legislative scrutiny itself can be completely unrelated to the alleged misstatements, it is unclear how the seemingly “new” element of bipartisan support on which Mr. Coffman hangs his hat (Coffman Report, ¶ 98) changes things. In any event, although the comments cited in paragraph 105 of my initial report were all

⁹² This was noted in footnote 4 of the Stulz Report.

⁹³ “Financial Oversight of Enron: The SEC and Private-Sector Watchdogs; Statement of Chairman Joe Lieberman,” October 7, 2002.

⁹⁴ “Financial Oversight of Enron: The SEC and Private-Sector Watchdogs; Report of the Staff to the Senate Committee on Governmental Affairs,” October 8, 2002, p.108.

⁹⁵ This fact and the market’s knowledge of the regulatory risks facing Moody’s were discussed extensively in ¶ 108 and footnote 162 of the Stulz Report.

⁹⁶ See, for example, “SEC Finalizes Rules to Regulate Credit Rating Firms,” *Dow Jones Newswires*, May 23, 2007, COFFMAN 03838, and “Moody’s Sees Short-Term Costs from New Bill, Competition,” *Dow Jones International News*, September 28, 2006, COFFMAN 03609.

from Democratic senators, Senator Shelby himself had in fact been critical of ratings agencies before, as was noted in paragraphs 40, 106, and footnote 159 of the Stulz Report.

51. Furthermore, Mr. Coffman's Exhibit 1 reports additional information on August 20, 2007 that could be "potentially material" and have a negative impact on Moody's stock price: JPMorgan's downgrade of McGraw-Hill (the parent of S&P, another rating agency). I point out in my first report that analyst recommendation changes can impact other firms in the same industry.⁹⁷ The JPMorgan report was pessimistic about the evolution of revenues at rating agencies because of the decrease in new issuances. Mr. Coffman has this information in his Exhibit 1 but completely ignores it in the main text of his report. This seemingly contemporaneous negative information makes it impossible to ascertain which piece of news released on that day was responsible for the price drop. In other words, the observed stock price drop could be entirely due to the JPMorgan analyst report, to Senator Shelby's speech, or to both.
52. The second statistically significant alleged disclosure day is May 21, 2008. This is the trading day on which the *Financial Times*' story that Moody's had covered-up errors in rating some constant proportion debt obligations ("CPDO") issued in Europe became public.⁹⁸ As I explained in the Stulz Report⁹⁹ and in my deposition ("Stulz Deposition"),¹⁰⁰ these CPDO securities are complex and exotic structured securities. They are a niche product and have nothing to do with subprime mortgages. Rather than being issued by U.S. banks active in structured finance involving subprime, they were issued by European banks and were taking positions in a bespoke portfolio of credit default swaps.¹⁰¹ The best way to think about these securities is as a closed-end mutual fund that takes positions in derivatives on corporate bonds according to a pre-specified formula. Moody's computer programs for rating these securities had a flaw.¹⁰² When Moody's employees in Europe were made aware of the problem, they supposedly took

⁹⁷ See Stulz Report footnote 158. The article cited in that footnote is now forthcoming in the *Review of Financial Studies*.

⁹⁸ "CPDOs Expose Ratings Flaw at Moody's," *Financial Times*, May 20, 2008.

⁹⁹ Stulz Report, ¶ 113.

¹⁰⁰ Stulz Deposition, 97:2-98:13.

¹⁰¹ Stulz Report, ¶¶ 113, 115, footnote 173.

¹⁰² "CPDOs Expose Ratings Flaw at Moody's," *Financial Times*, May 20, 2008.

non-credit-related factors such as Moody's reputation and potential impact on existing CPDO investors into account, which led the ratings to be unchanged.¹⁰³

53. Mr. Coffman uses the stock price drop on this day to argue that the alleged omissions are material,¹⁰⁴ but he ignores the fact that the external investigations failed to find evidence that Moody's personnel masked the model error or kept the ratings unchanged due to conflicts of interest.¹⁰⁵ Mr. Coffman also offers no evidence in his report linking the stock price drop on May 21, 2008 to Moody's alleged succumbing to conflicts of interest. Nor was he able to offer any during his deposition. Instead, he stated that analyzing whether the CPDO incident had anything to do with alleged misstatements or omissions related to conflicts of interest "was not part of what I was asked to do nor was it a part of -- I am not relying on that in any way for any of my opinions contained in this report."¹⁰⁶ This statement leaves him no reliable economic basis to assert the alleged misstatements or omissions were material.
54. In terms of what could have caused the stock price drop, Mr. Coffman *agrees* with my suggestion that the price decline could be due, at least in part, to concerns about model errors, but he makes a critical mistake attempting to link this point to Plaintiffs allegations.¹⁰⁷ Errors or inaccurate models can occur in the absence of fraud, due to reasons such as simple human fallibility. As discussed above with regulatory risk, stock price drops associated with investors' concerns over rating errors cannot be logically linked to Moody's allegedly concealing that it had succumbed to conflicts of interest.
55. Finally, as I noted in the Stulz Report, securities analysts covering Moody's did not even discuss the August 20, 2007 "disclosure" or link the May 21, 2008 *Financial Times* article to alleged artificially inflated ratings due to conflicts of interest or compromised independence.¹⁰⁸ Mr. Coffman seems to put a great deal of stock in analyst commentary, noting (while criticizing the major downgrade day analysis in the Stulz Report) that "[o]n the dates Dr. Stulz cites, there is **no analyst coverage or commentary that accuses**

¹⁰³ "Moody's Investors Service Announces Actions After Review of European CPDO Ratings Process," *Business Wire*, July 1, 2008; "Report of Investigation Pursuant to Section 21(a) of the Securities Exchange Act of 1934: Moody's Investors Service, Inc.," SEC Release No. 62802, August 31, 2010.

¹⁰⁴ Coffman Report, ¶¶ 87-88.

¹⁰⁵ Stulz Report, ¶117, "Report of Investigation Pursuant to Section 21(a) of the Securities Exchange Act of 1934: Moody's Investors Service, Inc.," SEC Release No. 62802, August 31, 2010.

¹⁰⁶ Coffman Deposition, 153:16-157:2.

¹⁰⁷ Coffman Report, ¶ 88 and Stulz Report, ¶¶ 112-118. .

¹⁰⁸ Stulz Report, ¶¶ 108, 115-117.

Moody's of artificially inflating the initial ratings. Dr. Stulz has not provided a clear rationale why these particular downgrades would be revealing.”¹⁰⁹ The very same criticism could be leveled at Mr. Coffman with respect to the alleged disclosures on August 20, 2007, and May 21, 2008. Absent analyst commentary linking these news stories to Plaintiffs specifically-pleaded misstatements or omissions, he has not provided a rationale as to why these particular disclosures are “revealing.”

V. MARKET EFFICIENCY

56. This section is meant to briefly respond to Plaintiffs' and Mr. Coffman's assertions on market efficiency for Moody's stock.
57. Mr. Coffman states that the event study I presented in the Stulz Report “provides strong evidence of market efficiency.”¹¹⁰ He also says that I do “not seriously dispute the informational efficiency of the market for Moody's stock” and that I cannot evaluate Moody's stock price movements in testing for materiality and loss causation unless I “accept[] that Moody's-specific news was efficiently incorporated into Moody's stock price.”¹¹¹ Mr. Coffman is mistaken. My event study does not provide *evidence of* market efficiency; my event study presumes market efficiency *for the sake of argument*. My evidence that alleged misstatements or corrective disclosures were not associated with significant stock-price reactions is consistent with either (1) the hypothesis that these alleged misstatements or corrective disclosures did not provide material new information to the market, *or* (2) the notion that the market for Moody's stock was not efficient.
58. Mr. Coffman blatantly ignores a large body of peer-reviewed academic research when suggesting that my “passing criticism of the [first four *Cammer*] factors themselves are not supported by any reliable theory or evidence.”¹¹² The well-known evidence I cited in

¹⁰⁹ Coffman Report, ¶ 90, emphasis added. In his deposition, Mr. Coffman also repeatedly raised the point that securities analyst reports help him determine whether news is potentially material or important (see, for example, Coffman Deposition, pp. 54, 64, 66, 193-194, 284).

¹¹⁰ Coffman Report, ¶ 7.

¹¹¹ Coffman Report, ¶ 39.

¹¹² See Coffman Report, ¶¶28, 37. Contrary to Mr. Coffman's suggestion, behavioral finance literature is replete with evidence of stocks trading on “open and developed” major national exchanges that nonetheless display inefficient behavior. Mr. Coffman can find numerous such examples from the survey of behavioral finance literature by Nicholas Barberis and Richard Thaler cited in ¶ 55 of the Stulz Report (Nicholas Barberis and Richard Thaler, “A Survey of Behavioral Finance,” Chapter 18 in *Handbook of the Economics of Finance*, George Constantinides, Milton Harris, and René Stulz, (eds.), *Elsevier Science B.V.*, 2003, pp. 1059 – 1063). In addition, some of Mr. Coffman's own reference materials provide examples of stocks trading on large, developed markets that nonetheless display inefficient behavior. *Investments* by Sharpe et al. (Coffman Report, footnote 39), discusses

the Stulz Report of departures from efficiency by highly-traded, well-covered stocks on major exchanges shows that these factors by themselves do not guarantee efficiency.¹¹³ Academic research also shows examples of NYSE-traded stocks that react strongly to news articles that offer no new information.¹¹⁴

59. When examining the first four *Cammer* Factors, Mr. Coffman largely cites Plaintiffs' Memorandum for Class Certification without performing his own independent analysis. Mr. Coffman's supposedly more formal test of efficiency (presented in Coffman Report, ¶ 48) is anything but formal or scientific. His selection of 45 days that potentially had material news is inherently subjective and arbitrary. For starters, he has not outlined a coherent or objective methodology for how he chose the 45 days, rendering the exercise non-replicable.¹¹⁵ The fact that the Coffman Report did not articulate *any* methodology for choosing the 45 days raises questions about why certain days made it into his set of 45 while other days with similar news did not.¹¹⁶
60. For example, he identifies an article on May 8, 2006, entitled "Moody's Puts Focus on REIT CDOs," from *National Mortgage News* as potentially material. The news article talks about a Moody's report on REIT CDO rating methodology that was published on

anomalies such as the "January Effect" (stock returns tend to be higher in January) or the "Day-of-the-week Effect" (daily returns may depend, to some extent, on the weekday). The Tabak et al. article (Coffman Report, footnote 49) discusses how speculative bubbles can affect individual stocks on well-developed markets. (William F. Sharpe, Gordon J. Alexander, and Jeffery V. Bailey, *Investments*, Sixth Edition, Prentice Hall, 1999; David I. Tabak and Frederick C. Dunbar, "Materiality and Magnitude: Event Studies in the Courtroom," Chapter 19 in "Litigation Services Handbook, The Role of the Financial Expert," Third Edition, John Wiley & Sons, Inc., 2001).

¹¹³ It is useful to note that the unpublished version of the survey article cited in the previous footnote was downloaded 13,251 times on one widely-used repository for academic research papers (SSRN) as of October 18, 2010. This makes it the 44th highest downloaded paper on that repository (which has over 245,000 distinct papers).

¹¹⁴ See discussion of Bristol-Myers Squibb, a large capitalization stock, in: Gur Huberman and Tomer Regev, "Contagious Speculation and a Cure for Cancer: A Nonevent That Made Stock Prices Soar," *The Journal of Finance*, v56(1), February 2001, pp. 387-396.

¹¹⁵ It is generally accepted that the scientific method requires that an experiment can potentially be replicated. For example, a scientifically significant effect can be defined "as that which can be regularly reproduced by anyone who carries out the appropriate experiment in the way prescribed." See, Karl Popper, "The Logic of Scientific Discovery," *Routledge*, 2002 (First English Edition, *Hutchinson*, 1959), pp. 23-24.. Mr. Coffman himself cites an article that discusses the notion that scientific evidence should be replicable. See, David I. Tabak and Frederick C. Dunbar, "Materiality and Magnitude: Event Studies in the Courtroom," Chapter 19 in "Litigation Services Handbook, The Role of the Financial Expert," Third Edition, John Wiley & Sons, 2001, pp. 8-9; COFFMAN 00291 .

¹¹⁶ In his deposition, Mr. Coffman repeatedly notes that a level of personal "judgment" is inherent in his exercise (see, for example, Coffman Deposition, pp. 42, 45-51, 54). However, he says that the exercise is nonetheless "objective" because the factors he considered were "driven by theory and research ... and economic logic ... you know, objective factors" (Coffman Deposition, pp. 50-51). He continues: "[t]he objective criteria was based on my training knowledge and experience" (Coffman Deposition, p. 71). I suppose Mr. Coffman considered, at least in part, past financial research on the broad categories of news that are likely to influence stock prices. Even so, the fact remains that the exercise itself is inherently subjective, or as Mr. Coffman said, "it's not devoid of all judgment, that's for sure" (Coffman Deposition, p. 51). Mr. Coffman's personal, professional judgment is the lens through which any objective economic theory is filtered in this exercise, and other researchers would necessarily have different opinions about what constitutes potentially material news, making the exercise itself non-replicable, and hence unscientific.

April 4, 2006.¹¹⁷ It is unclear why neither the original report nor Moody's press release regarding the same report is included in Mr. Coffman's Exhibit 1, but the May 8 article, which contains no new information, is included. Similarly, news about a JPMorgan analyst upgrading Moody's stock on July 26, 2006 is not included in the Coffman Report Exhibit 1,¹¹⁸ yet the news concerning JPMorgan's downgrade of McGraw-Hill is included on August 20, 2007. In addition, Mr. Coffman includes the 2006 10-K released on March 1, 2007 and news related to Moody's bank rating methodology on March 13, 2007 and March 16, 2007 as potentially material news. However, he does not include any other SEC filing or other methodology changes released during the putative Class Period, including the methodology reports related to loan originator assessments that figure prominently in the Complaint.

61. What's more, even if one accepts the proposition (which I do not) that Mr. Coffman's construct of 45 potentially material days is scientifically sound, it is important to note that the test itself does not answer the question at hand: is the market efficient? As Mr. Coffman noted in another matter, in an efficient market "security prices adjust to new publicly available information rapidly and in an unbiased fashion so that it is impossible to earn excess returns by trading on that information."¹¹⁹ Simply tabulating whether there are relatively more significant abnormal returns in a subset of days says nothing about whether the price response on those days to certain information was rapid, unbiased, or even in the correct direction given an *ex ante* view of the news. This is especially problematic given the fact that he includes multiple pieces of news with the same or opposite potential implications on the stock price on 13 of the 45 days without even attempting to disentangle their effects. Mr. Coffman even admitted in deposition that his test is not able to assess whether the price response was unbiased.¹²⁰

¹¹⁷ "Moody's Puts Focus on REIT CDOs," *National Mortgage News*, May 8, 2006, COFFMAN 03395. "Moody's Approach to Rating U.S. REIT CDOs," *Moody's Investors Service*, April 4, 2006. Also see, "Moody's Studies Growing REIT CDO Sector," *Moody's Press Release*, April 24, 2006.

¹¹⁸ "Moody's Upped At J.P. Morgan, Risk Of Earnings Miss Lower," *Dow Jones News Service*, July 26, 2006, COFFMAN 04148. This article revealed that JPMorgan upgraded Moody's to neutral from underweight, as JPMorgan was "more comfortable with the group's valuation after the recent decline in the share price [and believed that] the risk of an earnings miss in the second quarter ... look[ed] low."

¹¹⁹ *In Re: Connetics Securities Litigation*, Declaration of Mr. Coffman. Note that Mr. Coffman attempts to modify his earlier definition by stating that "all public information" implies "widely available public information" (Coffman Deposition, pp. 97-98). However, he has not provided any authoritative source that defines semi-strong form market efficiency based on the market incorporating "widely available" public information.

¹²⁰ Coffman Deposition, pp. 129-130.

62. Remarking on market efficiency, Professor Fama, often considered one of the fathers of the efficient capital markets hypothesis, notes: “though transactions costs, information that is not freely available to all investors, and disagreement among investors about the implications of given information are not necessarily sources of market inefficiency, they are potential sources. And all three exist to some extent in real world markets. Measuring their effects on the process of price formation is, of course, the major goal of empirical work in this area.”¹²¹ Mr. Coffman’s analysis does no empirical inquiry into how such real world factors influence price formation for Moody’s common stock. Critically, price formation is a dynamic process. Just because a market is efficient on one day does not necessarily imply the market is efficient on all other days, and Mr. Coffman has not even attempted to examine the informational efficiency of Moody’s stock after the putative Class Period, a critical timeframe which includes the alleged May 21, 2008 and October 22, 2008 disclosures.¹²²
63. As opposed to being a test of efficiency and rapid, unbiased price response to news, Mr. Coffman’s exercise merely shows that relatively more of his (subjectively identified) potentially material news days were associated with statistically significant stock returns than the rest of the trading days. Specifically, Mr. Coffman finds ten out of the 45 days have a statistically significant price movement; since this ratio ($10/45=22.2\%$) is “much higher” than 5%, he rejects the hypothesis that “there was no relationship between company-specific news and movements in the market price.” He then concludes that this finding is “scientific evidence of a cause and effect relationship between Moody’s-specific news and Moody’s stock price movements.”¹²³ Far from being scientific, these results are merely anecdotal; Mr. Coffman has not outlined the basic framework for his exercise, including a threshold to determine how “much higher” than 5% the results from

¹²¹ Eugene Fama, “Efficient Capital Markets: A Review of Theory and Empirical Work,” *Journal of Finance*, Vol 25, No. 2, 1970, p. 388. As Prof. Fama notes in this paper, efficiency is really about a transactions based process of price formation in response to new information. As stated in the Stulz Report (footnote 2), the first four *Cammer* factors -- high trading volume, analyst coverage, market maker presence, and S-3 eligibility -- are simply metrics that are generally satisfied by almost any security that trades on a major exchange; they are not tests of market efficiency. Simply documenting these factors says nothing conclusive about whether a stock responds efficiently to new information.

¹²² To illustrate the point that efficiency is a dynamic question, note that Moody’s stock became subject to some serious potential impediments to efficiency -- and the proper functioning of the arbitrage mechanism necessary to enforce efficiency -- after the Class Period. For example, there was a temporary ban on naked short selling for financial stocks which began on July 21, 2008, and a ban on any short selling of Moody’s stock between September 22, 2008 and October 8, 2008. In these periods, note that the first four *Cammer* factors would suggest that the market for Moody’s stock was efficient despite the rather obvious impediments to efficient price discovery and arbitrage.

¹²³ Coffman Report, ¶ 48.

his subjective, unscientific test must be for one to conclude that there was a “cause and effect” relationship?¹²⁴

64. In fact, the statistical test Mr. Coffman implements is nonsensical for the question at hand. Suppose, for argument’s sake, that Mr. Coffman has correctly identified days with material information and that a day with material information is defined as a day on which the abnormal return is significant. In this case, Mr. Coffman’s test is strong evidence against efficiency because each day should have a statistically significant abnormal return (assuming that the model used by Mr. Coffman to estimate the expected return of Moody’s stock is appropriately specified). The test Mr. Coffman implements shows one of the following: (1) the days with material news are imperfectly chosen, and he chose correctly 10 days on which Moody’s stock reacted significantly, as would be expected in an efficient market; (2) Mr. Coffman chose all the days correctly, but Moody’s stock did not trade in an efficient market, so most of the time it did not react to material news; and (3) the days chosen by Mr. Coffman are a mixture of days with material news and days without material news, and the market had significant abnormal returns on some days that may or may not have had material news.
65. Taken together, the criticisms in this section show that Mr. Coffman’s assessment of market efficiency is haphazard, unscientific, and hence unreliable.

¹²⁴ Since the exercise itself is unscientific, I am not sure what a reasonable threshold ratio would be. As a matter of speculative logic, though, given that Mr. Coffman’s first step was to identify “potentially material news,” one may expect the stock price to move in a statistically significant manner on *all* of the 45 days (or, allowing for some degree of imperfection in assessing “potentially material news” *ex ante*, at least the vast majority of the 45 days). Mr. Coffman has not explained why 5% -- which one would expect if the stock price moves by “randomness alone” -- rather than 100% (or something close to 100%) should be the correct benchmark. Given that the first stage of his exercise was to identify “potentially material news,” it is interesting that Mr. Coffman has not explained why Moody’s stock price *did not* ultimately react in a statistically significant manner on the vast majority (35) of the days he picked. In an attempt to make his exercise seem more scientific, Mr. Coffman reports results of a Chi-square test in footnote 54. As he notes, this test merely shows a significant difference in relative frequencies. Just showing (based on a subjectively defined test) that the market does not move in a completely random fashion, though, is far from answering the question at hand: whether “prices reflect what is known about a company” (Coffman Report, ¶ 27). Mr. Coffman did not even discuss, for example, whether all of the stock price reactions to his identified “news” items were in the direction or of the magnitude that he expected. He could be reporting results that include statistically significant stock price declines on days where he believed, *ex ante*, that the news was positive.

René M. Stulz
Professor René M. Stulz

Oct. 22, 2010
Date

APPENDIX A. POTENTIAL PRODUCERS OF KNOWLEDGE ABOUT OVERRATING

In this appendix, I show a long list of individuals and institutions that evaluate ratings and had the potential to discover systemic overrating of a certain type of bonds by a credit rating agency. Many of these individuals or institutions participated in the structured finance securitization process.¹²⁵ This is essentially a list of potential producers of knowledge about the alleged overrating. As I explain in my earlier report, once knowledge is produced, it can percolate through the ranks of investors through various networks as has been demonstrated in academic finance literature that I referenced earlier.

- A. **Issuers, underwriters, and originators.** An article in *Risk Magazine* before the putative Class Period made clear that at least some investors were concerned about the fact that issuers had better models than Moody's.¹²⁶ Banks also had units that engaged in proprietary trading of structured products, so that they could learn from the markets and exploit their knowledge. Finally, issuers typically created structures that had multiple Aaa tranches. They then denoted certain Aaa tranches to be safer than others and called them super-senior tranches. The mere existence of these tranches is strong evidence that (1) issuers and investors did not think that all Aaa tranches were created equal and (2) they were able to effectively assess credit risk using independent models at a more granular level than allowed by credit ratings.¹²⁷ Furthermore, originators and servicers had first-hand data on the mortgages in securitization pools; they had the loan files.
- B. **Fixed-income analysts.** Fixed-income analysts are paid to assess the value and risks of fixed-income securities. If the market does not know that a security is overrated but the analyst does, she has a good trade to propose to her clients to exploit the mispricing of the securities. It is therefore not surprising that fixed-income analysts

¹²⁵ For an overview of the mortgage backed securitization process and parties involved in this process, see, for example, John D. Martin, "A Primer on the Role of Securitization in the Credit Market Crisis of 2007," Baylor University Working Paper, January 2009, pp.4-5; "CDO Primer," *The Bond Market Association*, 2004, pp.41-43; and "The Role of Ratings in Structured Finance: Issues and Implications," *Bank for International Settlements, Committee on the Global Financial System*, January 2005, pp. 5-7.

¹²⁶ "But investors remain suspicious that some dealers are involved in a kind of ratings arbitrage. (...) Some investors claim that, essentially, these desks are able to put together structures that they know will get a rating of triple-B, for example, but are actually much riskier according to their own internal pricing models." ("What Lies Beneath?" *Risk Magazine*, January 1, 2003, available at: <http://www.risk.net/risk-magazine/feature/1498295/what-lies-beneath>).

¹²⁷ Mr. Dominguez, the former co-head of Global CDOs at Citigroup, explained in his testimony to the Financial Crisis Inquiry Commission, "[t]he view that super-senior tranches carried virtually no risk was pervasive at Citi based on, among other things, the level of structural subordination beneath those retained securities and our **modeling and stress analysis**." (Emphasis added). (<http://www.fcic.gov/hearings/pdfs/2010-0407-Dominguez.pdf>).

spent time and resources evaluating rating models and criticizing ratings. For instance, a Merrill Lynch analyst produced a report where he compared the CDO rating models of different rating agencies to assess credit risk of the same CDO.¹²⁸ The Complaint cites a UBS analyst who criticized Moody's for being slow in adjusting certain ratings on subprime RMBS.¹²⁹ Some of the top ranked fixed-income research analysts covering structured finance are former employees of credit rating agencies.¹³⁰

- C. **Institutional investors.** Identifying mis-rated or mispriced securities would present a profit opportunity for a savvy investor. Large institutional investors, including bond insurers, employ credit analysts whose job is to assess the credit risk of bonds. Often, institutional investors will have their own internal ratings for bonds that they will use in assessing credit risk.¹³¹ In the Stulz Report, I cite an academic study which conducted a survey to show that 57% of the 100 responding institutional investors claim to put more emphasis on their own internal credit analysis rather than rating agencies' analysis, while 6% ignored the rating agencies altogether.¹³² A hedge fund, Hayman Capital Partners, for example, shorted subprime related structured debt in 2007 based on their own credit analysis.¹³³ Tellingly, Mr. Coffman himself cites a July 11, 2007, internal Moody's email noting PIMCO, Vanguard and Blackrock's concerns over Moody's ratings and that "[RMBS] portfolio managers at Vanguard [had begun] to see problems in the work of the rating agencies" 18 months

¹²⁸ "CDO Rating Methodologies Review," *Merrill Lynch*, November 14, 2003.

¹²⁹ Complaint, ¶ 275.

¹³⁰ An example is Mr. Joseph Astorina, who was ranked #4 in "All-America Research Team" by *Institutional Investor* magazine in 2006 and 2009 for consumer ABS. He joined Barclays Capital in 2001 from a directorship position at Fitch (<http://americansecuritization.com/uploadedFiles/ASF2010SpeakerBios.pdf>). Another example is Douglas Lucas, head of CDO research at UBS who was ranked #2 for CDO in 2008. He developed Moody's rating methodologies for collateralized debt obligations and triple-A special purpose derivatives dealers before he left Moody's in 1993. (<http://www.americansecuritization.com/docs/annualmeetingbios/douglaslucas.pdf>). Also see: "UBS's Goodman, Top-Ranked Bond Analyst, Joins Amherst (update 2), *Bloomberg*, November 19, 2008 (<http://www.bloomberg.com/apps/news?pid=newsarchive&sid=a95Kqr8QTXsM&refer=home>).

¹³¹ See, for example: "Financial guarantee companies use a variety of approaches to assess the underlying credit risk profile of their insured portfolios.... Other companies within the financial guarantee industry may report credit quality information based upon internal ratings that would not be comparable to MBIA's presentation." (MBIA Inc. 2006 Form 10-K, p. 39). Also, "[MBIA] run[s] a lot of fundamental credit analysis, ... we notch it so we are not just accepting the ratings assigned to the collateral." ("Ratings Figure," *Risk Magazine*, November 1, 2007, available at: <http://www.risk.net/risk-magazine/feature/1498006/ratings-figure>).

¹³² H. Kent Baker and Sattar A. Mansi, "Assessing Credit Rating Agencies by Bond Issuers and Institutional Investors," *Journal of Business Finance & Accounting*, v29(9) & (10), November/December 2002, p. 1381.

¹³³ See, "[i]f you plug in 15% depreciation in housing prices and 50% loss severities into our *Subprime model*, the capital structure is wiped out all the way to the 'AA' tranches" (<http://dealbreaker.com/old/images/pdf/HaymanJuly07.pdf>, emphasis added).

previously.¹³⁴ Therefore, institutional investors not only had the capacity but clearly did evaluate the credibility of Moody's credit ratings, and as a result some questioned Moody's independence.¹³⁵

- D. **Consultants.** There are many consultants whose job is to assess the value and the risk of structured finance securities and/or provide valuation and risk evaluation models. Mr. Coffman states in his report that he worked on such consulting assignments. An article in *Credit Magazine* published in 2005 quotes the global head of investment consulting at Watson Wyatt advising pension funds of the risk of using credit derivative strategies involving structured instruments.¹³⁶ The Stulz Report (§ 46) mentions that one industry consultant questioned Moody's "cozy relationship with structured finance issuers" in 2005. The same consultant in her comment letter to the SEC in February 2007 states that "[i]ndependent organizations exist that will perform rigorous reviews and audit tests for placement agents, and their reviews go well beyond what rating agencies will do." She criticizes the ratings on structured assets to be "unreliable" and "sloppy," and specifically discusses the ratings on the CPDO product.¹³⁷ Earlier in this report, I provide information on a product produced by *LoanPerformance* that essentially allowed subscribers to construct all the statistics that are the quantitative foundations of credit ratings for structured finance and where *LoanPerformance* offered consulting services using that model for those who did not want to implement it themselves.
- E. **Risk managers.** Banks, insurance companies, and buy-side investors generally have one or more individuals whose job is to assess the risk of their positions. They will assess credit risk using multiple methods and often will be able to evaluate rating accuracy.¹³⁸ In institutions where securities are marked-to-market or where the focus

¹³⁴ Coffman Report, ¶ 24.

¹³⁵ The email includes the discussion of certain RMBS investors who expressed their frustration that "Moody's doesn't stand up to Wall Street" and disappointment that Moody's had "toed the line." See, MOODY'S-COGR 0019693-5.

¹³⁶ "Pension Funds Use More Derivatives But Shun CDOs," *Credit Magazine*, March 1, 2005 (<http://www.risk.net/credit/news/1519298/pension-funds-derivatives-shun-cdos>).

¹³⁷ "Re: File Number S7-04-07 Comments on SEC Proposed Rules and Oversight of NRSROs," Tavakoli Structured Finance, Inc., February 13, 2007.

¹³⁸ A hedge fund manager explained the risk management process for mortgage-backed securities as follows in 2003: "Analytical systems must be utilised to assess the impact of both projected prepayment and default rates on the structure and credit of a particular investment. Investing in credit-sensitive MBS requires a pre-investment loan-level collateral review and on-going surveillance of both loan characteristics and performance (delinquencies and defaults). This becomes increasingly important as one moves down the credit-rating spectrum." (Eric Keiter, "Mortgage Strategies," in "Managing Hedge Fund Risk: Strategies

of risk management is on marked-to-market values, the focus of risk management is necessarily on the sensitivity of asset values to market developments. The estimation of these sensitivities requires valuation models that encompass credit analysis.¹³⁹

- F. **Finance research.** There is a considerable amount of work among finance researchers in academia, think tanks, and research arms of central banks and international organizations evaluating the performance of the credit rating agencies as well as examining the risks and pricing of structured finance securities. I cited some of that work in my first report. These researchers published papers assessing structured finance ratings.¹⁴⁰ Much research was produced showing the limitations of models that formed the foundation of CDO ratings, and such research was discussed in widely-circulated professional magazines and presented in seminars frequented by industry professionals.^{141,142}

This list shows that many participants in financial markets and observers gathered, as part of their jobs, information that would have led them to discover any alleged systemic overrating of structured finance securities. These examples show that asking individual questions about what investors knew and relied on for their investment decisions is warranted in this matter.

and Insights from Investors, Counterparties, Hedge Funds and Regulators,” 2nd Edition, Virginia Reynolds Parker (ed.), *Risk Books*, 2005, p. 185).

¹³⁹ See: Norbert Jobst, “An Introduction to the Risk Management of Collateral Debt Obligations,” in “The Handbook of Structured Finance,” Arnaud de Servigny and Norbert Jobst ed., *McGraw-Hill*, 2007. The paper references a model made public by Lehman Brothers in 2004.

¹⁴⁰ For instance, a Federal Reserve study from 2004 showed how sensitive valuation and risk measures of synthetic CDOs are to certain assumptions (Michael S. Gibson, “Understanding the risk of synthetic CDOs,” Federal Reserve Board, July 2004).

¹⁴¹ For instance, “Hull and White, meanwhile, produced research last year that indicates that the use of double-t copulas, which exhibit fatter tails than normal copulas – meaning extreme, low-probability events are more likely – produce more accurate credit tranche prices.” (“Credit Model Rethink,” *Risk Magazine*, August 1, 2005, available at: <http://www.risk.net/risk-magazine/feature/1497690/credit-model-rethink>). The same article states that these authors are partnering with a major risk consulting firm to make such models available to buy side and sell side market participants.

¹⁴² See, for instance, the presentation given by Leif Andersen from Bank of America on “Portfolio Credit Derivatives: The State of Affairs” at the Financial Engineering Practitioners Seminars of Columbia University on October 24, 2005. http://www.ieor.columbia.edu/seminars/financialengineering/2005-2006/fall/Andersen_Leif/seminar.html.

APPENDIX B. DOCUMENTS CONSIDERED

Legal Documents

- In Re: Connetics Securities Litigation, Declaration of Mr. Coffman, filed March 16, 2009.
- In Re: Moody's Corporation Securities Litigation, Expert Report of René M. Stulz, filed May 28, 2010.
- In Re: Moody's Corporation Securities Litigation, Deposition of René M. Stulz, August 10, 2010.
- In Re: Moody's Corporation Securities Litigation, Declaration of Daniel Hume in Further Support of Lead Plaintiffs' Motion for Class Certification, filed August 23, 2010.
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- In Re: Moody's Corporation Securities Litigation, Deposition of Chad Coffman, October 7, 2010.

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- “Legislative Solutions for the Rating Agency Duopoly,” Hearing before the Subcommittee on Capital Markets, Insurance and Government Sponsored Enterprises of the Committee on Financial Services, U.S. House of Representatives, June 29, 2005.
- Prepared Testimony of Nestor Dominguez, Financial Crisis Inquiry Commission, April 7, 2010, available at: <http://www.fcic.gov/hearings/pdfs/2010-0407-Dominguez.pdf>.
- “Report of Investigation Pursuant to Section 21(a) of the Securities Exchange Act of 1934: Moody’s Investors Service, Inc.,” SEC Release No. 62802, August 31, 2010.

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- Karl Popper, “The Logic of Scientific Discovery,” *Routledge*, 2002 (First English Edition, *Hutchinson*, 1959).
- Stephen Ross, Randolph Westerfield, and Jeffrey Jaffe, “Corporate Finance,” Sixth Edition, *McGraw-Hill*, 2002.
- Eric Keiter, “Mortgage Strategies,” in “Managing Hedge Fund Risk: Strategies and Insights from Investors, Counterparties, Hedge Funds and Regulators,” Second Edition, Virginia Reynolds Parker (ed.), *Risk Books*, 2005.
- Arnaud de Servigny and Norbert Jobst (eds.) “The Handbook of Structured Finance,” *McGraw-Hill*, 2007.

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- Eugene Fama, “Efficient Capital Markets: A Review of Theory and Empirical Work,” *The Journal of Finance*, v25(2), May 1970.
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- First American CoreLogic, Inc. RiskModel Webpage, <http://www.facorelogic.com/products/risk-model.jsp>.
- Intex Webpage on Cashflow Models and Data, http://www.intex.com/main/solutions_cashflow.php.
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